Synopsys Discovery AMS Delivers New Level of Performance and Accuracy for Integrated Analog and Mixed-Signal Verification

New FastSPICE Simulation Technology Enables SPICE Accuracy with FastSPICE Performance

MOUNTAIN VIEW, Calif., April 2 /PRNewswire-FirstCall/ -- Synopsys, Inc. (NASDAQ: SNPS), a world leader in semiconductor design software, today announced the release of Discovery™ AMS 2007, a comprehensive, integrated analog and mixed-signal (AMS) verification solution for complex system-on-chip (SoC) designs. Discovery AMS 2007 features three new components-next- generation FastSPICE simulation technology, a new unified AMS debug and visualization environment, and tight integration with Synopsys' VCS® digital verification solution-that build upon Synopsys' technology-leading HSIM® and NanoSim® FastSPICE simulators. These enhancements address the critical need for a mixed-signal verification solution that can achieve "out-of-the-box" SPICE accuracy while maintaining FastSPICE performance and capacity.

Shrinking sub-nanometer geometries introduce significant process variations that increasingly affect circuit performance. Verifying that complex, sub-90-nanometer AMS SoC designs meet specifications while accounting for process variations exponentially increases the number of simulations required. Until now, SPICE simulators did not have the capacity, and FastSPICE simulators could not achieve the accuracy required to simulate today's mixed-signal nanometer designs.

Synopsys' new XA simulation technology allows customers to achieve "out- of-the-box" SPICE accuracy while maintaining FastSPICE performance and capacity. The XA simulation technology is a patent-pending, transistor-level simulation engine designed to augment NanoSim and HSIM as an add-on option. The combination of the XA simulation technology with NanoSim or HSIM delivers the most complete transistor-level verification solution.

"Since its introduction in 2003, Discovery AMS has been adopted by hundreds of design teams worldwide in their production flows," said George Zafiropoulos, vice president of marketing for verification products at Synopsys, Inc. "With Discovery AMS 2007, we have addressed the growing need for SPICE acceleration performance with a solution that builds upon our proven HSIM and NanoSim simulators. Working with leading IC companies such as Renesas Technology allows us to continuously improve our mixed-signal verification solution and deliver breakthrough technology in performance and accuracy, which our HSIM and NanoSim users can leverage through their current investments in our products."

Increasing analog and mixed-signal content in SoC designs is driving both the demand for mixed-signal verification and the need for a unified environment for analog and mixed-signal debug and visualization. With Discovery AMS 2007, both Synopsys' high-performance HSIM and NanoSim circuit simulators are tightly integrated with Synopsys' VCS digital verification solution through direct-kernel integration. The result is higher performance, higher verification throughput and greater flexibility in verifying mixed- signal SoC designs at all levels of abstraction, including SystemC, SystemVerilog, behavioral, gate and transistor level. In addition, Discovery AMS 2007 provides a full-featured, powerful debug and analysis environment that includes both analog and digital analysis capabilities.

"Accurate and timely verification of our complex custom and analog ICs with post-layout parasitics has become a critical factor in the success of our leading-edge IC designs," said Hisaharu Miwa, general manager, Design Technology Division, LSI Product Technology Unit, Renesas Technology Corp. "Discovery AMS, with the combination of HSIM and the XA simulation technology, enabled us to reduce verification time by an average of 5x over traditional FastSPICE and over 50x over SPICE while maintaining SPICE-like accuracy."

Availability

Synopsys' Discovery AMS 2007.03 is available immediately. The NanoSim/ HSIM XA Option is available immediately to HSIM and NanoSim customers.

About Synopsys Discovery AMS

Synopsys offers the industry's most comprehensive portfolio of analog and mixed-signal simulation solutions. The Synopsys Discovery AMS mixed-signal verification solution is based on the leading golden HSPICE simulator, NanoSim simulator, HSIM simulator and VCS simulator. The Discovery AMS solution provides a unique combination of accuracy, performance and capacity with the flexibility of simulating design abstractions in any combination of Verilog, SPICE, Verilog-A and Verilog-AMS. This comprehensive solution enables designers to achieve superior throughput and accuracy for the largest mixed- signal systems on chips (SoCs).

About Synopsys

Synopsys, Inc. is a world leader in EDA software for semiconductor design. The company delivers technology-leading

semiconductor design and verification platforms and IC manufacturing software products to the global electronics market, enabling the development and production of complex systems-on-chips (SoCs). Synopsys also provides intellectual property and design services to simplify the design process and accelerate time-to-market for its customers. Synopsys is headquartered in Mountain View, California and has offices in more than 60 locations throughout North America, Europe, Japan and Asia. Visit Synopsys online at https://www.synopsys.com/.

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CONTACT: Sheryl Gulizia of Synopsys, Inc., +1-650-584-8635, or sgulizia@synopsys.com; or Rachel Modena Barasch of MCA, Inc., +1-650-325-7547, or rbarasch@mcapr.com

Web site: https://www.synopsys.com/